Abstract

Methods and apparatus for maintaining the maximum achievable data rate on a DSL line, up to and including a rate to which a user subscribes is described. Performance monitoring is conducted on the DSL line on an ongoing basis to determine noise margins in each direction. Each noise margin is compared against pre-determined decreasing/increasing thresholds to determine whether the line characteristics dictate a data rate change without loss of synchronization. The invention supports dynamic provisioning changes including application driven service level change requests, e.g., new bandwidth-on demand services. In some embodiments, a combination of existing and new embedded operations channel (EOC) messages are used to implement the modem data rate changes. New EOC messages may be implemented using some of the reserved and/or vendor proprietary Opcodes currently permitted. Modem assigned data rate changes are implemented without a disruption of service, e.g., without the need for re-initialization and/or re-synchronization.